HeLa Polynucleosomes, Purified

Catalog No	16-0003	**Species**	Human
Lot No	22319015-81	**Source**	HeLa cells
Pack Size	50 µg	**Tag**	N/A
Concentration	4.42 µM	**MW**	230,000 Da

DESCRIPTION

Human polynucleosomes purified from HeLa cells. The nucleosome is the basic subunit of chromatin, which consists of 150 base pairs of DNA wrapped around an octamer core of histone proteins (two each of H2A, H2B, H3 and H4). HeLa Polynucleosomes are predominantly trimers, with some dimers and tetramers (**Figure 1**).

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws
Formulation	1.016 mg/mL purified HeLa Polynucleosomes in 49.2 µL 20 mM HEPES pH 7.5, 1 mM EDTA (25.2 µg protein, 50 µg DNA + protein)

APPLICATION NOTES

HeLa Polynucleosomes are suitable for use in enzyme assays such as acetylation or methylation, chromatin binding, or as a positive control in western blotting. Use 1-2 µg per reaction.

Molarity and molecular weight are estimated based on DNA size and account for the endogenous post-translational histone modifications.

Note: despite the high purity of the preparation, a small amount of arginine methyltransferase (RMTase) activity may co-purify with the nucleosomes. If you are studying weak or low turnover HMTases, you can use AMI-1 to inhibit the endogenous RMTase activity.

GENE & PROTEIN INFORMATION

UniProt ID	H2A - P04908 (alt. names: H2A type 1-B/E, H2A.2, H2A/a, H2A/m) H2B - O60814 (alt. names: H2B K, HIRA-interacting protein 1) H3 - K7EMV3 H4 - P62805

REFERENCES

[1] Kuo et al. *Mol. Cell* (2011). PMID: 22099308
[2] Matthews et al. *Nature* (2007). PMID: 18033247
[3] Shi et al. *Nature* (2006). PMID: 16728974

VALIDATION DATA

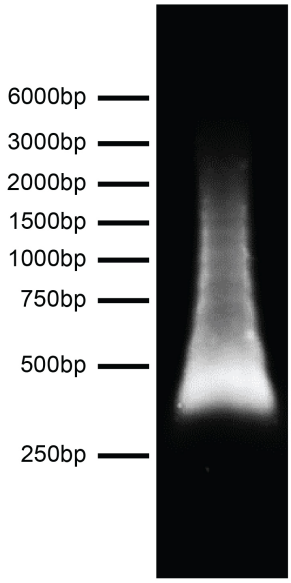

FIGURE 1 **DNA gel data.** DNA (2 µg) was purified from HeLa Polynucleosomes and resolved via agarose gel to show the size of nucleosomal DNA compared to molecular weight markers (base pairs). Dimers resolve at ~350 bp, trimers at 475 bp, and tetramers at ~625 bp.

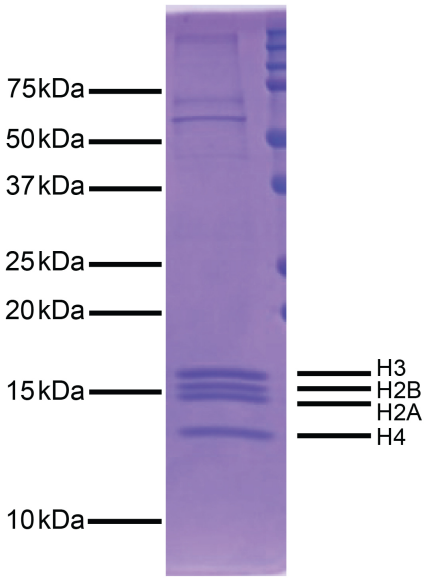

FIGURE 2 **Protein gel data.** Coomassie stained SDS-PAGE gel of proteins in HeLa Polynucleosomes (2 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and position of the core histones (H2A, H2B, H3, and H4) are indicated.

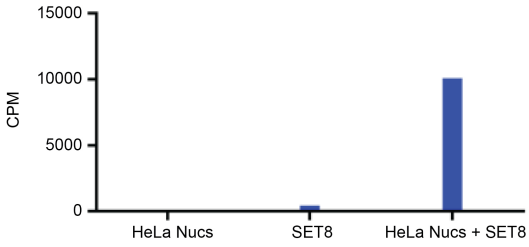

FIGURE 3 **Enzyme activity data.** HMTase assay with HeLa Polynucleosomes (1 µg) and SET8 (HeLa Nucs + SET8; 1 µg) using a standard radiometric filter binding assay protocol. Controls include the Polynucleosomes alone (HeLa Nucs) or SET8 alone (SET8). SET8 is aa 1-352 of UniProt# Q9NQR1.